

Energy Research at the Paul Scherrer Institute

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Energy is the topic of two of PSI's research departments. Harvesting of renewable energies, transformation to energy carriers for flexible use, and efficient conversion of final energy into energy services have remained at the focus of General Energy.

As a first energy chain, biomass resources that are not competing with higher value-added use, are transformed into methane, which can then be converted efficiently to electricity, heat, and motive power in near-zero emission combustion devices.

The second value chain targets harvesting solar energy, which is transformed into either electricity or hydrogen produced by high-temperature solar chemistry. The envisaged area of application is transportation, based on either electrochemical storage in advanced batteries or on fuel cell propulsion trains.

Advanced characterization at PSI's large facilities is intensely used in the experimental activities.

These efforts are framed by experimental studies of environmental consequences of the energy-related activities for the atmosphere, by life cycle analysis, and by studying scenarios for the future development of the energy system.

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